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Wakefield Estate Arboretum Development Plan

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Wakefield Estate Arboretum Development Plan

Title: Wakefield Estate Arboretum Development Plan

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Historic Preservation 900 Independent Study at the University of Pennsylvania

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Abstract:

The development of a plan to create a public arboretum from a private garden is a process that involves the incorporation of several specific plans. This paper presents a brief analysis of each planning area necessary to produce the Wakefield Estate Arboretum Development Plan. Research of the history of the Wakefield Estate, existing plans for other sites, site visits, and staff interviews at operating public institutions provided all of the necessary information to complete this analysis.

When completed, the study can be used as a model by various institutions including historic sites and private gardens and arboreta to expand their development and accessibility to the public.

Wakefield Estate Arboretum Development Plan

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INTRODUCTION

The Mary Wakefield Estate in Milton, Massachusetts is a private trust dedicated to public education. The estate is twenty-five acres that includes designed gardens, orchards, wetlands and woodlands. Historic buildings include the three hundred year old farmhouse, a Georgian mansion, large barn and a caretaker's cottage.

Mary Wakefield died in 2002 and left the estate in trust to be used for public education. It was also her wish to open the Wakefield as a public arboretum. As a graduate student in historic preservation I have accepted an internship followed by a full time position to develop and implement the strategy for converting a private garden to a public arboretum. Landscape Architecture 755, "Issues in Arboretum Management" offered the perfect opportunity to develop the framework of this plan and begin phase one, which focuses on-site research and visits to compile information that will aid in the development plan for the Arboretum.

The creation of the arboretum development plan is a two-year process. This process will unfold in several stages. Phase One includes the development of the internship, grant applications, site visits and research. Phase Two will be completed during the summer internship. This phase includes compilation of historic documentation, development of a plant records database, and the development of a landscape management plan.

Phase Three will be conducted on a part-time basis during my second year of graduate school. This phase will include the development of the interpretive plan, the financial plan, and the implementation plan. The Arboretum development plan has been unofficially approved as the topic for my master's thesis that will be presented in the spring of 2012. Upon completion of PennDesigns' Historic Preservation Program, I will begin working at the estate full time to open the Arboretum to the public.

HISTORY

The Wakefield Estate has been in Mary Wakefield's family for more than three hundred years. Mary inherited the estate from her parents Henry and Alberta Binney and married Kennard Wakefield. The Binneys and Wakefields used the property for farming including the production of sheep, hay, and apples.

Mary Wakefield was born in 1914. She grew up in the farmhouse on the estate and attended the Lowthorpe School for Women, a school focused on landscape architecture associated with the M.I.T. Architecture School. During World War II Mary returned home to run the family farm. She continued to foster her love for gardening through design and horticulture. She designed and implemented several formal areas on the estate in a style loosely based on the work of landscape designer Beatrix Farrand. Mary worked closely with propagators from Harvard's Arnold Arboretum to develop a diverse plant collection. She worked extensively on the landscape rehabilitation plans for the Boston Common and was active in supporting Massachusetts legislation for the protection of ecological areas. Mary Wakefield was an avid plant propagator

and patented several dogwood cultivars. Mary died in 2002 and left the Wakefield in trust to be used for public education.

Living Collections

The Wakefield Estate has a diverse collection of woody plants. Many woody plants in the collection are from the Arnold Arboretum including dove trees, parrotias, giant sequoias, lacebark pines, and paperbark maples. The most significant plant collection at the Wakefield is the dogwoods. There are over three hundred dogwoods on the property. The Wakefield Estate holds the patents for six of these varieties. These dogwoods make up a significant part of the designed gardens at the Wakefield that include several allees that are part of a spectacular spring display.

Educational Programming

The mission of the Wakefield Estate is: “To promote lifelong participatory learning using the land and resources of the estate through collaborative partnerships with schools and community organizations.”

The current success of the estate has been in educational programming and community outreach. The Wakefield partners with several of the schools in Mattapan, Boston, and Milton to educate 4th, 5th, and 6th graders on the property as part of their public school science curriculum. The students visit twice a year to view lifecycles of plants and animals in their natural environment.

Other educational programming includes an archeology summer program operated by Boston University Ph.D. students, a high school horticultural internship program, and archival and curatorial fellowships for graduate students from Simmons College.

In the summer of 2010 the Wakefield partnered with the Mattapan schools to design and construct interactive gardens at the school sites. Local nurseries donated the plant material, soil, and equipment and planning and garden implementation was done by the students and faculty. Horticulture interns from the estate take care of these gardens during the summer. This program will continue to expand to include several more urban K-6 schools.

Arboretum Development Plan

The Wakefield Arboretum will continue to uphold the mission serving the community as an interactive outdoor learning center to promote the interaction with those resources as a learning tool. The planning process will always reflect this vision moving forward. The development of the Arboretum plan is a two-year process. Three phases of the project have been identified. Various groups will work several parts of the plan on simultaneously. Changes and updates to the plan will occur on a continual basis.

PHASE ONE: Internship and Grant Proposals

This project began with the internship proposal submitted to the director and trustees of the organization of the Wakefield. Originally the proposal consisted of the development of a landscape management plan. Currently, the estate has no clear management strategy for the landscape. The plant collection is an extremely important feature of the property; the lack of a comprehensive management plan has led to the neglect of this component of the estate. Invasives including buckthorn, Norway maple, muliti flora rose, ground ivy, and garlic mustard cause major damage to many areas of the property. The lack of selective tree removal has led to the disastrous scenario of an overcrowded collection. A landscape management plan must be created and implemented as a priority to the further success of the property as a learning facility focused on the natural resources it offers.

The director and trustees accepted a landscape management plan internship proposal. The project expanded to include an Arboretum development plan as a master's thesis topic and the permanent position of Landscape Manager and Director of Arboretum Development.

An integral part of the planning process is research. Site visits conducted as part of the Morris Arboretum Management class initiated a research project that includes visiting twenty-five gardens and arboreta throughout the United States. The grant proposals, methodology for interviews, and interviews are the focus of this semester's independent study.

Site Visit Methodology

1. Submit grant proposals for traveling fellowships through Penndesign. ¹
2. Develop list of criteria for garden selection.
3. Compose list of sites²
4. Develop methodology for interviews. ³
5. Visit sites
6. Compile data

¹ See Appendix A Grant Proposal

² Ibid

³ See Appendix B Sample Interview

PHASE TWO: Summer Internship

Historical Documentation

The Arboretum master plan will include a detailed history of the Wakefield Estate. Graduate Students from Boston University's Historic Preservation Program are currently compiling the National Register nomination for the Wakefield Estate. The nomination includes a landscape history documenting land use from Native American occupation to current property use.

A historic landscape inventory is being compiled with the help of the education director and the executive director of the Wakefield Estate.

Boston University Ph.D. students are developing the site's archeology map that will be a key piece of information in the development of the Arboretum master plan.

Plant Documentation

The documentation of the Wakefield Estate plant collection will be at the center of the Arboretum management plan. The Wakefield archives holds thousands of pieces of information on various plants, their origin and location on the Wakefield property. All documents are currently being catalogued to be used as references for identification and history. In 2005 tree care specialists conducted a conditions survey of the unique and important woody plants at the Wakefield. This inventory provides detailed conditions information that will be very helpful in prioritizing trees in the collection for tagging and identification. Plant documentation will provide the bulk of the work for the summer of 2011.

Plant Records Methodology

With the help of Grace Chapman at Temple Ambler Arboretum and John Hinchman, Professor at the University of Pennsylvania specializing in digital media, I developed a database that will be used to record and begin tagging the plant material at the Wakefield Estate.

Originally, BG Base was considered the desired method of plant recording, but after interviewing staff from other arboreta it became clear that BG Base is not currently economically or logistically feasible. The access database can be loaded and used with GIS software to provide a detailed mapping system that can be linked with the archeology and infrastructure maps for the estate.

Recording

Using the zone map that was created for the landscape management plan zones will be prioritized for phase I of the tagging process.⁴ At this stage unless there is clear documentation about the specific plant we will just be assigning numbers to the plants and including basic documentation: size, common name and a brief conditions survey. Eventually the following information will exist for each plant. This recording process is ongoing.

- A unique accession number
- Identification (scientific name and common name)
- Authority (person who published the scientific name)
- Provenance or source information about when and from where the plants entered the collection.
- Location of the plants within the collection by zone, garden and x/y coordinates
- Growth habit (tree, shrub, perennial, vine, groundcover, bulb, succulent, annual)
- Health
- Size (height, trunk diameter at breast height, width of canopy)
- Conservation status (rare, endangered, threatened)
- Use of plant for food or medicine
- Causes of plant removal/death
- Ornamental characteristics

In January 2011 a project grant was submitted for hiring two summer interns to begin tagging the collections for five weeks. The project grant was accepted interns are currently being interviewed.

Landscape Management Plan

The Wakefield Estate has one full time horticulturalist, part-time summer help, and five horticultural summer interns. Tree work is contracted out to tree specialists. Currently there is no landscape management plan for the Wakefield Estate. A coherent management strategy is needed to provide the basic level of maintenance specifically invasive control and collections care. The landscape management plan is being developed using the Arnold Arboretum landscape management plan as the template.⁵

⁴ See Appendix C

⁵ Arnold Arboretum Landscape Management Plan <http://arboretum.harvard.edu/about/planning/landscape-management-plan/Accessed> January2, 2011

Methodology

Using the site-engineering map produced in 2006 for the Wakefield Estate, we developed a base map of the property.

In December 2010 we established zones that will be used in all mapping projects of the estate. The proposed zones for the estate are based on a list of criteria the included:

- Historic evolution of the property
- Original land surveys
- Formal and designed gardens
- Working landscapes
- Historic names of character areas
- The property is divided into six zones that include: North Lot, Former Pasture Section of North Lot, South Lot, Farmhouse Lot, West Zone, and New Lot.

Proposed Plan

The plan organizes the landscape into six management zones that provide a structure for staff assignments and identify specific care needs and projects for collections and landscape areas. Zones encompass areas that are contiguous and share similar challenges, collections themes or management requirements. Zones are treated as a unit with common specifications for daily, monthly and annual care. Specifications are written to attain targeted standards of care and presentation. The following information is provided to guide the care and management of each zone:

1. **Management Priority:** Zones are designated as “high”, “moderate” or “low” priority based upon their relative importance within a given year, as determined by the landscape director of landscape management. Priorities may vary annually, depending on special projects, particular landscape issues (e.g., pest outbreaks, winter damage, etc.) and larger organizational needs.
2. **Management Intensity:** The amount of resources (staff time, equipment and materials, team support, etc.) needed to maintain a given zone at the desired standard is designated as: high, medium and low.
3. **Area Profile:** A general profile of each area describes distinguishing characteristics, unique resources, history and special challenges.
4. **Special Priorities:** Tasks and projects of high priority that require ongoing attention and commitment.
5. **Annual Care Plan:** All tasks needed to maintain an area is listed by season, in descending order of priority.
6. **Noxious Weeds:** Extant weed species requiring management.
7. **Pests and Diseases:** Pests and diseases that are currently a problem or may be in the future.
8. **Long-Term Projects/Tasks:** Projects and tasks to be accomplished by Arboretum staff, within the annual operating budget, are listed for each zone within a 2-5 year time frame. These include landscape improvements, plant acquisition, vegetation management, restoration projects, and pest and disease abatement.

9. Capital Projects: These larger projects require capital investment outside the operating budget. They include hardscape design and construction, irrigation and other projects to be completed within 3-5 years.
- Implement landscape management plan
 - Develop record keeping system

Horticulturalists will be expected to document their work. Work lists will be printed and distributed monthly.

PHASE THREE: **Interpretive Plan, Financial Plan, Implementation Plan**

Interpretive plan

The interpretation plan will strongly reflect the Wakefield s mission of education and community engagement. The following definition of interpretation provides the framework for developing a comprehensive interpretive plan:

"Interpretation is conversation, guided interaction, or any communication that enriches the visitor experience, by making meaningful connections between the messages and collections of our institution and the intellectual and emotional world of the visitor."⁶

Plan Methodology

1. Background and project context
2. Vision, Outcomes, and Recommendations
3. Stakeholders in the Wakefield Estate including, staff members, board members, community members, education professionals, and planning professionals will be interviewed to establish the important elements of an interpretive plan. Methods for engaging these stakeholders will include one on one sessions, and facilitated group meetings.
4. Youth interpretation will be a major component of our plan. School children from the ages of 9 to 17 will be given the opportunity to decide what they think is important about the Wakefield Estate. This interpretation model is based on the "Journey to Hallowed ground educational model."⁷ The 'Of the Student, by the Student for the Student Program' is a nationally recognized and award winning service learning program that combines movie

⁶ 10Cunningham, Mary Kay. The Interpreters Training Manual for Museums. Washington, DC: American Association of Museums, 2004

⁷ <http://www.hallowedground.org/content/view/536/52/> Accessed March 2, 2011

making with on site natural history and authentic experiences to connect young people with the landscape and its history. Children between the ages of 9 and 17 will be given recording tools to document the Wakefield estate and give presentations about their own interpretation of the property.

5. Visitor analysis: It will be necessary to understand needs of the visitors that will be coming to the arboretum for a variety of programming and to experience the landscape.
6. Media and methods: The development of interpretive maps, brochures and a wayfinding system will be a major contribution to the interpretive plan.
7. Levels of interpretation: The interpretation of the estate will consist of three levels.
8. We have highlighted important aspects of the landscape based on the age level of the visitor. Our primary goal for the wayfinding system will be to develop the system as part as the educational programming for the 4th 5th and 6th grade visitors.
9. Implementation priorities and timeline

Financial Plan

The Wakefield Estate Trust has a financial plan and yearly operating budget. The arboretum development plan will include a financial plan that will exist within the parameters of the estate financial plan.

Methodology

1. Research financial plans for arboreta of similar size
2. Prioritize projects for funding
3. Maintenance
4. Funding strategy

Funding Strategy

1. Statement of why you need to raise funds for the garden
2. Strategic goals for the Arboretum
3. Financial goals for the Arboretum
4. Policies, if any, related to these goals
5. Strategies to cultivate major donors, foundations, and corporations
6. Strategies to solicit specific market segments
7. Time frames for achieving the goals
8. People responsible for achieving the goals

Implementation Plan

The implementation plan will be developed during the final six months of the project. This plan will rely heavily on the financial plan and infrastructure development plan. Project implementation will be done in a phase format. The phases of implementation will include:

1. Building infrastructure
2. Hiring personnel
3. Continued plant records tagging
4. Recruitment of volunteers
5. Continued removal and replacement of specimens

CONCLUSION

The Mary Wakefield Arboretum Development Plan will take more than two years to complete. Phase development of the plan will be a useful tool for an organized transformation from private to public. Changes to the plan will be continuous in an effort to make sure all of the elements in developing a successful plan are met.

APPENDIX A: Funding Proposal

Susan Cromwell Coslett Traveling Fellowship School of Design, University of Pennsylvania

I am seeking the Susan Cromwell Coslett Fellowship to fund site visits to twenty-five gardens and arboreta in the United States and British Columbia. These site visits are critical to understanding how smaller gardens and arboreta operate, including their funding strategies the condition their collections, and educational programs.

The results of this research will provide important information that will be used as the basis for my master's summer internship.

The Mary Wakefield Estate in Milton, Massachusetts is a private trust dedicated to public education. The estate consists of twenty-five acres of designed gardens, orchards, wetlands and woodlands and a Georgian mansion.

As an intern at the Wakefield Estate, I will conduct a feasibility study for the conversion of a private estate into a public garden and arboretum with a strong educational mission.

The budget for my internship does not include funds for such visits. There is no room in my school loan budget for travel. This grant will allow me to observe collections and speak with staff and would greatly help me in developing an appropriate strategy for opening a private landscape for public use and education.

The goal of my internship is to write a proposal to open the Wakefield as a public garden and arboretum. My intention is to develop an innovative strategy by creating an interactive landscape, promoting strong public involvement for education and community building, engaging local students at all levels from visitor services to horticulture to education. The opportunity to do hands on learning provides important job training for students of all levels. The conversion plan will include a financial management plan, a landscape management plan, a volunteer program and an expanded education program. The final result will be the proposal for my master's thesis.

The director of the Wakefield is focused on community engagement and has the freedom and flexibility to develop some inventive strategies. The Wakefield has already hosted such diverse programs as the International Society of Arboriculture's women's tree climbing clinic for arborists from all over the country and a week-long seminar held by the Harvard Landscape Institute to discuss how the property should be used and interpreted.

The Wakefield is partnered with several of the schools in Mattapan, Boston, and Milton to bring elementary school students to the estate as part of their public school science curriculum. The students visit twice a year to view lifecycles of plants and animals in their natural environment. The enthusiasm professed by students and teachers in this program make it clear that programs like these are successful at providing a high level of educational value.

Previous to entering graduate school, I was employed by the Wakefield to renovate and document the plant collection and formal gardens. The plant collections suffered a twenty-year period of neglect. Many of the gardens were filled with invasives and the collection of over three hundred dogwoods was in serious need of repair and care. I had the opportunity to expose a designed landscape that evolved for more than fifty years. During this renovation many questions were raised as to the treatment of a historic landscape that has suffered a long period of neglect. Understanding the importance of preserving an historic landscape while allowing it to evolve became the reason I decided to pursue a master's degree in preservation. I have spent several years doing the hands on horticultural work and learning about landscapes and their care. By pursuing my Masters degree at Penn, I am provided with the necessary tools to effectively plan and manage historic landscape collections for future generations.

If historic landscapes are to be protected, we must make them relevant to the needs of today's communities, having the opportunity to visit a variety of gardens and arboreta will provide a greater understanding of the adaptability of these properties to changes in the field of landscape preservation and management for the twenty-first century.

Project Goal

Develop plan to convert a private estate into a public garden and arboretum.

Plan will be the basis of master's thesis proposal: Planning and managing historic landscapes in the twenty-first-century.

Goals at each site.

1. View the gardens and arboreta. Design, history, condition, collection.
2. Interview financial planning personnel.
3. Interview horticulturalists and arborists about the management and care of the collections.
4. Study public programming and fundraising strategies.
6. Review preservation strategies for historic landscapes.

The fellowship will allow me to research gardens and arboreta of similar size and scope to the Wakefield. The list of criteria is based on factors relevant to the conversion of the Wakefield from a private to a public landscape.

Criteria

1. Grow historic plant collections.
2. Converted private gardens to public gardens.
3. Use propagation facilities.
4. Offer education programs that are free or subsidized.
5. Offer internships to high school aged students.
6. Use test gardens to help fund their programs.
7. Seek unique fundraising strategies.
8. Have a strong volunteer program.
9. Have historic houses on the property.

10. Partner with other local organizations to increase visitation and exposure.
11. Are similar climate zones to the Wakefield.
12. Focus on one particular plant family or species.

List of Sites

Maine Botanical Gardens, Maine
 Viles Arboretum, Augusta, Maine
 Abbey Aldrich Rockefeller garden, Mount Desert, Maine
 Polly Hill Arboretum, Martha's Vineyard, Massachusetts
 New England Wildflower Society, Sudbury, Massachusetts
 Tower Hill Botanic Garden, Worcester, Massachusetts.
 The Botanic Garden of Smith College, Northampton, Massachusetts
 University of Massachusetts Test Gardens, Amherst, Massachusetts
 Heritage Museum and Gardens, Sandwich, Massachusetts
 Wave Hill, New York
 Cornell Plantations, Ithaca, New York
 Planting Fields Foundation, Oyster Bay, New York
 Leonard S. Buck Garden, Morristown, New Jersey
 Temple University Arboretum and Test Garden, Ambler, Pennsylvania
 Bartram's Garden, Philadelphia, Pennsylvania
 Berry Botanic Garden, Portland Oregon
 Elk Rock Garden, Bishops Close, Portland, Oregon
 James F. Bybee and Howell Territorial Park Sauvie Island, Oregon
 Deepwood Estate, Salem, Oregon
 Shore Acres State Park, Coos Bay, Oregon
 Mount Pisgah Arboretum, Eugene, Oregon
 Botanic garden and Center for Plant Research, University of British Columbia, Vancouver,
 British Columbia
 Butchart Gardens, Vancouver, British Columbia
 Vancouver Compost Demonstration Garden, Vancouver, British Columbia
 Van Dusen Botanical Garden, Vancouver, British Columbia

Budget

Gardens and arboreta will be visited over a period of two to three days each during weekends over the summer. Ten days will be necessary for west coast travel.

Maine
 Car Rental \$170. Fuel \$85 Miles 600
 3 nights Hotel \$375
 Food \$100
 Massachusetts
 Car Rental \$170 Fuel \$55 Miles 375
 3 nights Hotel \$375

Ferry \$120
Food \$125
New York, New Jersey and Pennsylvania
Car Rental \$170 Fuel \$85 Miles 600
3 nights hotel \$375
Food \$125
Oregon and Vancouver
Airfare \$800
Car rental \$400 Fuel \$100 Miles 700
Hotel for nine nights \$1,125
Food \$300
Entrance fees \$120
Funding total \$5,180

APPENDIX B: Bartram's Garden Questionnaire

Bartram's Garden Questionnaire

(Date, Staff member)

How many employees does the garden have?

What is the mission of the garden?

How do you convey the historic aspects of the property?

What are major obstacles to operating this garden?

Do you have a landscape management plan?

What are you doing to increase visitation?

What could be done to improve facilities structure?

How do you engage the community?

Can you talk about the educational programming?

Do you have a volunteer staff?

Do you offer discounts for schools that don't have a big budget?

How do you keep plant records?

How do you stay relevant?

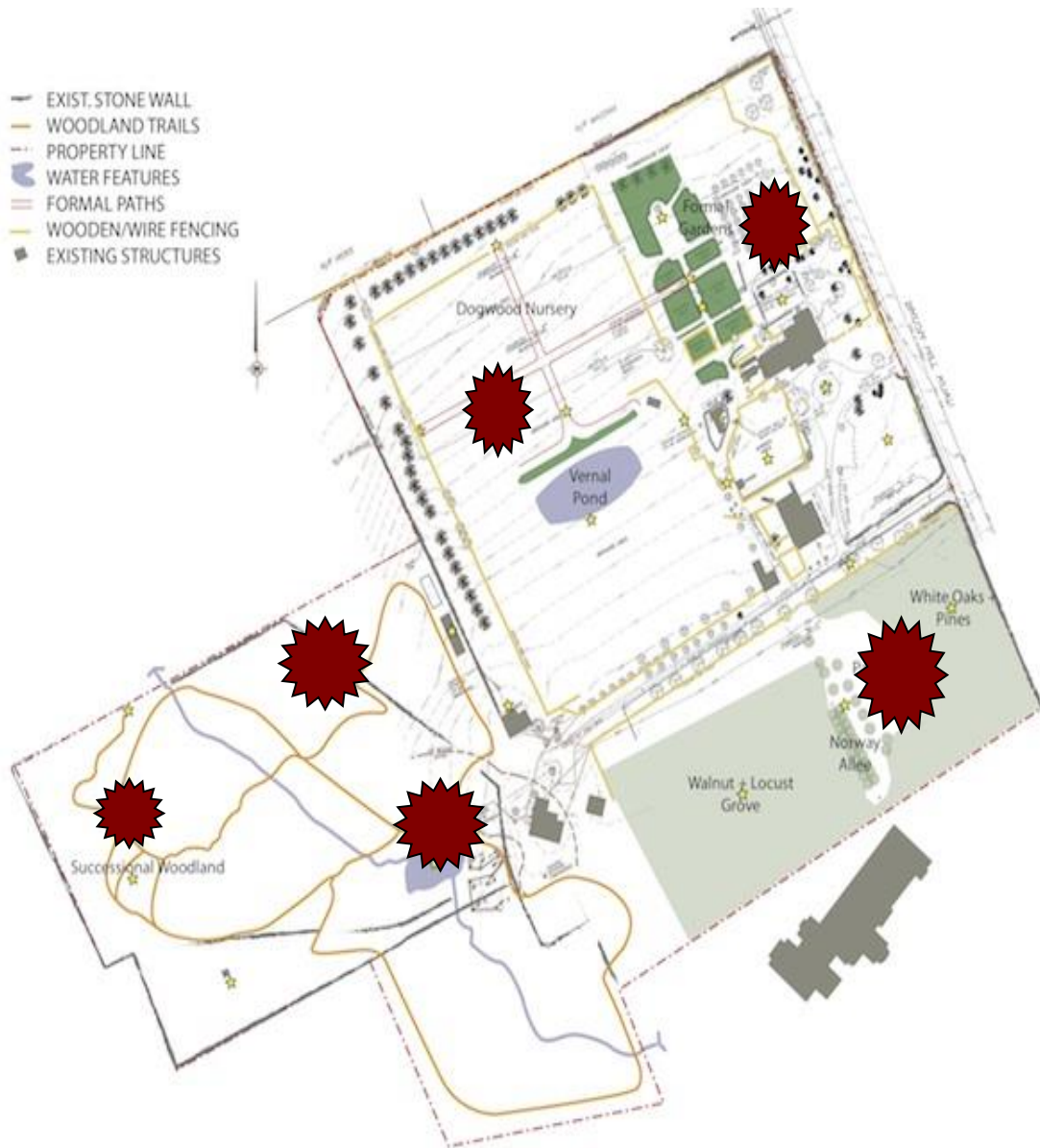
Do you partner with other organizations?

Can you talk about some of your fundraising strategies?

Take you talk about maintenance issues?

What is your role here?

APPENDIX C: Wakefield Estate



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